

affirms that no final agreement was reached as to the allowability of the claims.

IN THE SPECIFICATION:

Please replace paragraph [0009] with the following rewritten paragraph:

31
-Interesting hypothesis has been proposed that sporadic Alzheimer disease might be the brain type of non-insulin dependent diabetes mellitus (Hoyer, S. Is sporadic Alzheimer disease the brain type of non-insulin dependent diabetes mellitus? A challenging hypothesis. J. Neural Transm. 105, 415-422, 1998). It has been suggested that intracerebroventricular insulin enhances memory in a passive-avoidance task [Park, C. P., Seeley, R. J., Craft, S. and Woods S. C. (2000) Intracerebroventricular insulin enhances memory in a passive avoidance task. Physiol. Behav. 68, 509-514]. Insulin receptor density and tyrosine kinase activity in the sporadic Alzheimer's disease (SDAT) was known to be significantly decreased [Frolich, L., Blum-degen, D., Bernstein, H. G., Engelsberger, S., Humrich, J., Laufer, S., Muschner, D., Thalheimer, A., Turk, A., Hoyer, S., Zochling, R., Boissl, K. W., Jellinger, K., and Piederer, P. Brain insulin and insulin receptors in aging and sporadic Alzheimer's disease. J. Neural Transm. 105, 423-438, 1998].

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Interestingly, tyrosine phosphorylation of the hippocampal insulin receptor has been shown to play an essential role in spatial memory formation [Zhao, W., Chen, H., Xu, H., Moore, E., Meiri, N., Quon, M. J., Alkon, D. L. (1999) Brain insulin receptors and spatial memory. J. Biol. Chem. 274, 34893-34902, 1999]. Taken together, insulin receptor activators could be used for memory enhancement in addition to cholinesterase inhibitors.--

Please delete paragraph [0010] which is after paragraph [0009] as follows:

Please replace Paragraph [0072] with the following rewritten paragraph:

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~~The~~ test was basically performed according to the step-through method described by Jarvik and Kopp [Jarvik, M. E. and Kopp, R. An improved one-trial passive avoidance learning situation. Psychol. Rep. 21, 221-224, 1967]. The Gemini Avoidance System (SD Instruments) was used for this experiments. The apparatus consists of a two-compartment acrylic box with a lightened compartment connected to a darkened one by an automatic guillotine door. Mice were placed in the lighted box for 300 sec. Then, the guillotine

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door was open. Mice, as soon as they entered the dark compartment, received a punishing electrical shock (0.3 mA, 1 sec). The latency times for entering the dark compartment were measured in the training test and after 24 hr in the retention test. The maximum entry latency allowed in the retention session was 500 sec.--

Please replace paragraph [0078] with the following rewritten paragraph:

B³
- Male Sprague Dawley rats were decapitated and subjected to the isolation of hippocampus on 4C.. Hippocampal homogenates were prepared as described earlier with some modifications [Zhao, W., Chen, H., Xu, H., Moore, E., Meiri, N., Quon, M. J., Alkon, D. L., Insulin receptors and spatial memory. J. Biol. Chem. 274, 34893-34902, 1999]. The isolated hippocampus was resuspended with buffer A containing 50 mM Tris HCl, pH 7.4, 1 mM EDTA, 1 mM EGTA, 150 mM NaCl, 1% Triton X-100, 0.5 mM PMSF, 1 mM Na₃VO₄, 1ug/ml of leupeptin and aprotinin and subjected to homogenization with a Potter-Elvehjem homogenizer. The lysates were then spun at 1,000 x g fo 5 min and the supernatant were subjected to protein assay and saved at 70°C.--

Please replace paragraph [0083] with the following rewritten

paragraph:

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- Equal amount of hippocampal proteins were applied to SDS polyacrylamide gel. Electrotransfer of proteins from the gels to nitrocellulose paper (Schleicher & Schuell) was carried out for 1 hr at 100 V (constant) as described by Towbin et al. [Towbin H., Staehelin, J., Gordon, J. Electric transfer of proteins from polyacrylamide gels to nitrocellulose sheets: procedure and some applications. Proc. Natl. Acad. Sci. USA 76, 4350-4354, 1979]. The filter papers were preincubated for 1 hr at 23 C with PBS containing 0.1% Tween 20 and 3% bovine serum albumin and washed with PBS containing 0.1% Tween 20 three times for 10 min each. The blots were probed with pTyr antibodies for 1 hr at 23 C. The blots were then incubated with HRP-conjugated anti-rabbit IgG for 30 min and washed with PBS containing Tween 20 five times for 10 min each. The detection of immobilized specific antigens was carried out by ECL (NEN). --

Please replace paragraph [0088] with the following rewritten paragraph:

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- Male SD rats were dosed p.o. with vehicle or fractions of AR extract. The rats were decapitated after 90 min, brains rapidly removed, hippocampus and corpora striata dissected free, weighed and homogenized as described above.

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Cholinesterase activity was measured as described by Ellman et al [Ellman, G. L., Courtney, K. D., Andres, V., Featherstone, R. M. A new and rapid colorimetric determination of acetylcholinesterase activity. Biochem. Pharmacol. 7, 88-95.1961]. Briefly, 3 ml of buffer I (100 mM phosphate, pH 8.0), 0.2 ml of 75 mM acetylthiocholine iodide and 0.1 ml of buffered Ellman's reagent (DTNB 10 mM, NaHCO₃ 15 mM) were mixed and allowed to incubate for 10 min at 25°C. Then, 20 ml of enzyme sample was added and absorbance was measured at 30 sec intervals. The percent inhibition was calculated by comparison with the enzyme activity of the vehicle control group.--

IN THE CLAIMS:

✓ Please cancel Claims 16-52 without prejudice.

Please amend the following claims:

36
1. (Twice Amended) A composition containing Asiasari Radix extracts subjected to multiple pH adjustments with an acid and a base, the extracts being extracted with a chlorinated aliphatic solvent and further fractionated with a methanol, the extracts having at least two therapeutically effective agents therein for improving memory and protecting brain cells against damage caused by excitatory amino acids and oxidative stresses.
